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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,703	11/21/2001	Markus J.H. Bulters	P 283256 D1098-CIP	9614

909 7590 08/13/2003

PILLSBURY WINTHROP, LLP
P.O. BOX 10500
MCLEAN, VA 22102

EXAMINER

MCCLENDON, SANZA L

ART UNIT PAPER NUMBER

1711

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/989,703

Applicant(s)

BULTERS ET AL.

Examiner

Sanza L McClendon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 22-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-21, drawn to optical fiber and method of making said fiber, classified in class 385, subclass 147.
 - II. Claims 22-25, drawn to an assembly and method of using, classified in class 73, subclass 862.3+.
2. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination (Group II) as claimed because coated optical fiber comprising said primary coating composition does not require the defined cavitation strength to be distinguished over the prior art; for instance, the combination of other properties, such as the storage and the equilibrium modulus could be enough to define said optical fiber or coating on said fiber over the prior art. The subcombination has separate utility such as measuring other tensile properties (see claim 22), such as the pull-out force.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

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5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Paul Sharer on June 19, 2003 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-21. Affirmation of this election must be made by applicant in replying to this Office action. Claims 22-25 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-5, 7-13, and 15-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claims 1-5, 7-13, and 15-21 lack clarity and are indefinite because they relate to an extremely large number of products and method having the claimed properties. Support within the disclosure is to be found, however, for only a small number of said products and methods. In the present case, the claims so lack support and the application so lacks disclosure, that a meaningful search over the whole claimed scope is impossible. Independent of the above reasoning, claims 2-16 relate

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to a primary coating composition defined by reference to a desirable characteristic or property, namely "the equilibrium modulus, the storage modulus, and the cavitation strength". The claims cover all compositions having the characteristics or properties or satisfy a particular mathematical relationship, whereas the application provides support for only a very limited number of such compositions. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search is impossible. An attempt is made to define the composition by reference to a result achieved or a mathematical relationship. Consequently, a search has been carried out for those parts of the claims which appear to be supported and disclosed, namely parts relating to the compositions comprising at least one crosslinking component introducing bimodal distribution into the composition and alkoxylated diol diacrylate crosslinkers in primary coating compositions used in coated optical fibers comprising primary, secondary, and, optionally, ink coatings.

Claim Rejections - 35 USC § 102/ 35 USC § 103

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 5, 13, 19, and 21 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Aloisio et al (6,215,934).

Aloisio et al teaches coated optical fibers with improved strippability. Said coated optical fibers comprise a primary layer and a secondary layer, wherein Aloisio et al teaches types of optical fibers can be group together in an array by a matrix bonding material. Said primary layer has an equilibrium (in-situ) modulus that is in the range from 120 to 500 psi (0.8 to 3.4 MPa)—see abstract. Aloisio et al teaches that primary coating compositions/coats having an equilibrium modulus in the upper range of about 500 psi is where the microbending losses in the fiber itself becomes unacceptable (column 6, lines 1-5). Said primary coating compositions typically comprise an urethane acrylate oligomer, a mono-functional acrylate monomer having an aromatic moiety, a mono-functional aliphatic acrylate monomer, a photoinitiator, and

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an adhesion promoter—see column 6, lines 10-15. Aloisio et al teaches that the crosslink density of said primary coating corresponds to the plateau or

“equilibrium” modulus on the storage modulus curve, wherein it is specified that the modulus can be increased by increasing the amount of difunctional monomers and decreasing the amount of mono-functional monomers among a few—see column 6, lines 25-38. Per formulation D (column 7), Aloisio et al teaches a primary coating composition comprising a difunctional crosslinking component that introduces bimodal functionality to the composition, i.e., hexanediol diacrylate; wherein the equilibrium modulus is 189 psi of 1.3 MPa.

Aloisio et al does not expressly teach the cavitation strength for said formulation, however Aloisio et al teaches the equilibrium modulus, refers to the crosslink density as a function of moduli, such as the plateau or “equilibrium modulus” on the storage modulus curve, therefore it can be assumed that the primary coating has a storage modulus in order to obtain the crosslink density. Therefore, the primary coating composition of Aloisio et al should inherently have cavitation strength property. And because the Patent and Trademark Office is not equipped to conduct experimentation in order to determine whether Applicant's composition differs and, if so, to what extent, from the discussed reference. Therefore, with the showing of the reference, the burden of establishing non-obviousness by objective evidence is shifted to the Applicants.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as

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a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 5-6, 13-14, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chawla et al (WO 97/42130).

Chawla et al teaches radiation curable composition useful as inner primary coating compositions on an optical fiber, which can include an inner and outer primary coating layers. This appears to anticipate claim 19. Chawla et al teaches composition for inner primary coating composition can include as alkoxyated difunctional reactive diluents, which will introduce bimodal functionality into the composition, such as ethoxylated bisphenol-A diacrylate—see page 9. These teaching appear to anticipate claims 5-6 and 13-14. According to applicant's claimed invention a inner primary coating composition comprising a crosslinking component that introduces bimodal functionality into the composition should inherently produce a coated optical fiber and primary coating composition having an equilibrium modulus of about 1.5 or less, a storage modulus at 23 °C, and a cavitation strength that at a tenth cavitation appears of at least 1.0 MPa as measured at the deformation rate of 0.20% min⁻¹ storage, and said cavitation strength being at least about 1.4 times the storage modulus at 23 °C.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,104,433 to Chapin et al teaches the importance of the equilibrium modulus and how it relates to many different properties in a primary coating on an optical fiber.

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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L McClendon whose telephone number is (703) 305-0505. The examiner can normally be reached on Monday through Friday 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0657.

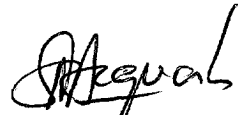
Sanza L McClendon

Examiner

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SMc

August 11, 2003


SAMUEL A. ACQUAH
PRIMARY EXAMINER
GROUP 120 / 700